THE INSECT PEST SURVEY BULLETIN

A monthly review of entomological conditions throughout the United States

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BUREAU OF ENTOMOLOGY
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OUTSTANDING ENTOMOLOGICAL FEATURES FOR AUGUST, 1922

The Hessian fly situation continues favorable over the greater part of the wheat belt. The preliminary survey in New York State shows a decrease of flaxseeds in stubble from 5.2 per cent last year to 1.2 per cent this year. Over the southern half of Ohio stubble infested with flaxseeds has dropped to 3 per cent. In the northwestern part of the State, however, the infestation runs to 18 per cent in fields planted after the fly-free date and 86 per cent in early sowings. In Indiana the percentage of flaxseeds is low and parasitism heavy. In Illinois parasitism runs from 60 to 75 per cent with occasional fields showing 100 per cent of the puparia parasitized. In Iowa and North Dakota a large fall emergence is anticipated. A very recent survey in northwestern Kansas shows a decided increase of Hessian fly. In fact much of the territory has never before been infested by this insect. From 5 to 25 per cent of the crop was damaged by fly this year. The outbreak extends from Osborne and Russell Counties to the northwestern corner of the State.

The Mormon cricket is reported as being serious in parts of Colorado, Utah, and Idaho.

The chinch bug situation, as a whole, is not as serious as anticipated earlier in the season.

The first record of the corn-leaf blotch-miner in Maine was received this month.

The velvet bean caterpillar appeared at Gainesville, Fla., about fifteen days earlier than last year. It should have reached the Georgia State line during the last week in August, though no reports to this effect have been received.

The cherry fruit sawfly has been reported for the first time as occurring in southwestern Washington.

The black vine weevil has damaged cranberry plantations in Washington State.

The grape leafhopper is injurious in the Great Lakes grape region of Michigan, New York, and Ohio.

Living Mexican fruit fly, Mediterranean fruit fly, and Papaya fruit fly larvae have been intercepted by quarantine officers at the various ports of entry in California during the past month.

The potato leafhopper is seriously abundant in Ohio and much hopperburn is in evidence. This leafhopper is also reported from Michigan, New York, and the northern half of Indiana.

The worst outbreak of the false chinch bug on potatoes in the history of the State is under way in southern Idaho, according to reports from that State.

The Mexican bean beetle is causing heavy damage in Alabama and Georgia and locally in Tennessee and Kentucky. It has extended its range considerably this year. Twenty-four new counties have been infested in Georgia, Kentucky, Tennessee, North Carolina, and South Carolina.

The boll weevil situation is but little changed from last month. Heavy or increasing infestations are reported from parts of North Carolina, Mississippi, South Carolina, and Georgia. Moderate to light infestations occur in Tennessee, Arkansas, Oklahoma, southern Alabama, and Louisiana, and the greater part of Texas.

The cotton leafworm outbreak reported in the last number of the Survey developed rapidly. The first larvae were reported from Hines County in south-central Mississippi on July 21. The first-generation flight appears to have extended as far north as Dallas County in Texas, Desha County in Arkansas, and Oktibbeha County in Mississippi. The main flight seems to have taken place prior to the last week in July, as larvae were reported from these counties on July 31. By August 14, moths were found in Garvin County, Okla. and Washington and Mississippi Counties, Ark. Inasmuch as moths of the second generation were found at Tallulah, La., on August 14, it seems that the first flight of moths did not extend farther north than central Texas, southern Arkansas, and northern Mississippi, while the moths of the second generation had gone as far north as central Oklahoma and northern Arkansas by August 15.

The satin moth has become permanently established in western Washington.

The elm borer is killing hundreds of elm shade trees in the eastern half of Kansas.

An epidemic of the two-lined prominent on oaks is covering central North Carolina.

The worst outbreak of the pine butterfly ever recorded in Idaho is now under way. The larvae have completely defoliated about 14,000 acres of yellow pine.

INSECT PEST SURVEY BULLETIN

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CEREAL AND FORAGE-CROP INSECTS

WHEAT

HESSIAN FLY (*Phytophaga destructor* Say)

New York — C.R.Crosby (preliminary survey for 1922). "Survey was carried on in 14 counties in the western part of the State. The average infestation in the 14 counties was 1.2 per cent as compared with an infestation at this time last year of 5.2 per cent. The county infestations were as follows:

	Per cent		Per cent		Per cent
"Niagara	4.4	Monroe	0.0	Cayuga	0.0
Erie	6.5	Livingston	.0	Onondaga	.0
Orleans	.5	Wayne	3.3	Oswego	.0
Genesee	.8	Ontario	.5	Tompkins	.8"
Wyoming	.4	Seneca	.0		

Ohio — T.H.Parks (August 1). "The Hessian fly is well under control in all except the northern counties. The southern half of the State has an average of only 3 per cent of the straws infested. Early sown fields, wherever they were present, retained most of their flies. The average percentage of straws infested in 15 early sown fields in 10 northwestern Ohio counties was 86 per cent. The average percentage of straws infested in 72 fields sown after the fly-free date in the same counties was 18 per cent."

Indiana — J.J.Davis (August 18). "Although there is comparatively small infestation of the Hessian fly and regardless of the fact that a large percentage of the flaxseeds are parasitized, we will continue to strongly urge the sowing of the wheat after the fly-free date. We feel that this step is essential for satisfactory and continual control."

Illinois — W.P.Flint (August 17). "There is a general moderate to heavy infestation in wheat stubble in the northern part of the State, with much lighter infestation in central and southern Illinois. Percentage of parasitism apparently very high, averaging from 60 to 75 per cent with occasional fields running practically 100 per cent."

Iowa — F.A.Fenton (August 18). "The Hessian fly is very abundant and all signs point to a very large fall emergence and subsequent wheat infestation. Parasitism of this species, which for the past few years has been negligible, is on the increase."

North Dakota — R.L.Webster (August 15). "The more abundant rainfall this year may have increased the second brood to large enough proportions to become troublesome. Reports of this pest are received from McKenzie and Williams Counties in the northwestern part of the State. This insect is not common in the spring wheat region."

Kansas — J.W.McColloch (August 28). "A very recent survey in northwestern Kansas shows a decided increase of Hessian fly. In fact much of the territory has never before been infested by this insect. From 5 to 25 per cent of the crop was damaged by fly this year. The outbreak extends from Osborne and Russell Counties to the northwestern corner of the State."

EUROPEAN WHEAT SAWFLY (Cephus pygmaeus L.)

New York — C.R.Crosby. "In connection with the Hessian fly survey, the percentage infestation of this pest was determined as follows:

"Niagara - - -6.8	Livingston - - - -19.3	Tompkins - -17.6
Erie - - - - 2.6	Monroe - - - - - - 3.0	Cayuga - - 24.5
Orleans - - 13.3	Wayne - - - - - - 7.6	Onondaga - -17.6
Genesee - - 23.8	Ontario - - - - - 31.4	Oswego - - 6.0
Wyoming - - 19.2	Seneca - - - - - 10.8	

"This gives a 14.3 per cent infestation for the 14 counties where counts were made."

JOINTWORM (Harmolita tritici Fitch)

New York — C.R.Crosby. "Preliminary jointworm survey in 14 Eastern counties shows an infestation of over 1 per cent as compared with 2.8 per cent infestation in 1921. The infestation was highest in the northwestern corner of the State, running as high as 6.6 per cent in Genesee County. The percentage infestation in the central counties was as follows:

"Cayuga - - - 1.1	Niagara - - - 2.2	Seneca - -0.5
Erie - - - - -0.0	Onondaga - - -0.0	Tompkins- 0.0
Genesee - - - 6.6	Ontario - - - 0.0	Wayne - - 1.8
Livingston - 0.2	Orleans - - - 1.8	Wyoming - 0.8"
Monroe - - - 0.0	Oswego - - - 0.0	

Ohio — T.H.Parks (August 1). "The wheat jointworm was not injurious in any of the 31 counties visited."

Iowa — F.A.Fenton and C.J.Drake (August 18). "The wheat jointworm is bad in several counties, causing a large percentage of injured wheat. Parasites of this species are unusually abundant."

WHEAT-SHEATH GALL JOINTWORM (Harmolita vaginicola Doane)

New York — C.R.Crosby. "In connection with the general wheat survey, the percentage infestation of wheat stubble by this insect was found to be 0.17 per cent in the 14 counties from which wheat samples were received. The infestation by counties was as follows:

"Cayuga - - -0.5	Niagara - - -0.0	Seneca - - -0.0
Erie - - - - .0	Onondaga - -- .8	Tompkins -- .0
Genesee ---- .0	Ontario - - -.0	Wayne - - - .3
Livingston - .0	Orleans - - - .3	Wyoming - - .0"
Monroe - - - .5	Oswego - - - .0	

Ohio — T.H.Parks (August 1). "The wheat-sheath jointworm was found doing some damage in the northeastern counties. It was found as far west as Clermont County. This is the first record of its being taken in western Ohio."

. . MORMON CRICKET (Anabrus simplex Hald.)

Colorado — C.P.Gillette (July 15). "This insect has been destructive in Moffat and Rio Blanco Counties and has been very well controlled where the poisoned bran mash had been used."

Idaho — Claude Wakeland (August 1). "This pest is decidedly more abundant than usual in Franklin County. A few grain fields have already been completely destroyed and gardens are badly infested. The eggs of this species are laid in the uplands bordering cultivated dry-land farms. They are present in large numbers nearly every year but do not always prove as abundant and injurious as this year."

FALSE WIREWORM (Eleodes hispilabris Say and E.carbonaria Say)

Idaho — Claude Wakeland (August 1). "This insect is not as abundant as it was during 1921 except in a few restricted localities. It is too early yet to estimate its abundance in comparison with last year, however. Adults of Eleodes carbonaria Say began emerging the first week of July and adults of Eleodes hispilabris Say during the third week of July."

. . A TRUE WIREWORM (Dalopius sp.)

Utah — I.M.Hawley (July 18). "In regard to the elaterid larvae sent to you by Mr. Justus Stevens, of this department, I might say that it was collected in Hoytsville, Summit County, Utah. The field was broken up last fall and planted to wheat after being a pasture for about twenty years."

CORN

. . CHINCH BUG (Blissus leucopterus Say)

New York — C.R.Crosby (July 22). "This insect was observed killing grass on lawns at White Plains."

Florida — Jeff Chaffin (August 6). "Mr. Charles Stitts reports from Boynton that this insect is ruining several lawns in the vicinity of this town, the lawns being of St. Augustine grass."

Ohio — T.H.Parks. "Spring barley was entirely destroyed by the bugs in Paulding and Van Wert Counties. The northwestern counties experienced the most serious infestation. Butler, Hamilton, and Warren Counties experienced damage in a few places, owing to very dry weather which left no grass in wheat stubble. Frequent rains in July eliminated the damage in the central and north-central counties by keeping the grass green in stubble fields. In Van Wert County 14,300 gallons of tar were sold to the farmers for making barriers. These barriers worked well. Probably 85 per cent of the farmers who used them saved their grain."

Indiana — J.J.Davis (August 17). "If weather conditions are favorable, we are almost certain to have a very heavy infestation of chinch bugs next year as we anticipate that large numbers will go into hibernating quarters."

Illinois — W.P.Flint (August 17). "The second brood is developing in about normal numbers. Apparently will not increase much over 1921. In all but about 25 counties there is now slight to moderate infestation."

Michigan — R.H.Pettit (July 10). "I have just received information that the chinch bug is on the rampage in the vicinity of Coldwater and that it has migratdd from fields of grain already and has destroyed fields of corn."

Iowa — F.A.Fenton (August 18). "The chinch bug is apparently well under control as no new reports have been received during the past month, and in counties where it was abundant methods recommended by the extension entomologist have been very effective."

Nebraska — M.H.Swenk (August 1). "In northeastern Boyd County and adjacent parts of Knox County cornfields were reported injured by the chinch bug during the third week in July when infested wheat was cut and the mostly immature bugs were forced to migrate. The injury, however, was not as extensive as had been expected."

Missouri — A.C.Burrill (July 26). "First flight noticed since April took place on this date in Saline County."

CORN EARWORM (Heliothis obsoleta Fab.)

Massachusetts — A.I.Bourne (August 21). "Perhaps the item of prime importance in this State in view of last year's experience is a report from Bristol County of the beginning of the work this season of the corn earworm. It is already doing considerable damage and looks as though it might be even worse than last year."

New York — H.C.O'Dell (August 5). "The corn earworm appeared on August 1 at Valley Stream in Nassau County. They are quite numerous and will, no doubt, do great damage to late corn."

Ohio — T.H.Parks (August 1). "By August 1, this insect was becoming increasingly abundant and injuring sweet corn."

STALK BORER (Papaipema nebris Guen., var. nitela Guen.)

Maine — E.M.Patch (July 17). "Reports of this damage so far are coming generally from the vicinity of Portland."

Ohio — T.H.Parks (August 1). "More common than usual all over the State, especially damaging corn."

Indiana — J.J.Davis (Augugt 17). "The stalk borer continues to be frequently reported in our correspondence. However, at the present time it is not doing any damage but is working in the stalks of corn near the base, similar to the injury by the European corn borer."

Iowa — F.A.Fenton (August 18). "The stalk borer, up until recently, was still in the caterpillar stage and a large number of complaints have been received about this pest."

ARMYWORM (Cirphis unipuncta Haw.)

Nebraska — M.H.Swenk. "During the last week in July the true armyworm put in an appearance in the fields of south-central Nebraska, these being mature caterpillars of the second brood. The cool spring and unusually moist spring and summer have been so favorable to armyworm increase that heavier damage was expected during early August than has yet been reported."

FALL ARMYWORM (Laphygma frugiperda S.& A.)

Florida — Jeff Chaffin (August 10). "This armyworm has not yet made its appearance so far this year. This time last year it was present all over the State."

Louisiana — T.H.Jones (August 15). "While no general outbreak of the grass worm developed on lands planted with crops following overflows of the Mississippi River, recent reports received from various parts of the State indicate that the worms are at present causing noticeable damage in some sections though not necessarily in sections that were overflowed."

SUGAR-CANE BORER (Diatraea saccharalis Fab.)

Louisiana — T.H.Jones (August 15). "Complaints of borer injury to corn are still being received, especially from the Parishes of East Baton Rouge, East Feliciana, and West Feliciana."

CORN-LEAF BLOTCH-MINER (Agromyza parvicornis Loew)

Maine — E.M.Patch (August 19). "Report has been received from Guilford that this insect is badly infesting a 3/4-acre patch of Golden Bantam sweet corn. Corn has been grown on this piece of land for a number of years but the damage has not been noticed heretofore. Many of the leaves are badly mined."

. . CORN-SILK BEETLE (Luperodes varicornis Lec.)

Texas — M.C.Tanquary (August 14). "This insect has been reported as dding serious injury to field corn in western Texas and has also been reported as working on cotton."

. . CORN LANTERN FLY (Peregrinus maidis Ashm.)

Mississippi — R.W.Harned (August 17). "The corn lantern fly was abundant on corn stalks sent in by Mr. K.L.Cockerham, of the Bureau of Entomology, from Biloxi. Last year numerous reports were received in regard to the injury caused by this insect in the southern part of this State."

. . PRIONUS GRUBS (Prionus fissicornis Hald.)

Nebraska — M.H.Swenk (August 1). "In Johnson County a field of corn that had been planted on sod ground was almost entirely ruined by the last week in July because of prionus grubs, probably Prionus fissicornis Hald., eating up into the bottom of the cornstalk and an inch or two from the bottom into the heart of the stalk."

ALFALFA

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Idaho — Don Whelan (July 17). "Damage by this pest is very slight in the eastern area of the State and most abundant in the southwestern corner. The parasite Bathyplectes curculionis is spreading rapidly."

California — (California Weekly News Letter, Volume 4, No.32). "The Bureau of Plant Quarantine, California Department of Agriculture, reports the finding of the larvae of the alfalfa weevil at Bridgeport, California. Adult weevils have been taken at the State Line in the effects and bedding of auto campers."

. . YELLOW-STRIPED ARMYWORM (Prodenia praefica Grote)

California — E.O. Essig (July 31). "This insect has appeared for the first time as a serious pest in the San Joaquin and Sacramento Valleys. It had been quite successfully controlled by the using of bran mash, open furrows, irrigation ditches, and cutting of the crop."

GARDEN WEBWORM (Loxostege similalis Guen.)

Indiana — J.J.Davis (August 17). "Following our last report on alfalfa webworm at Shipshewana, in LaGrange County, we received report as to the occurrence of this same insect in adjoining counties, i.e., Elkhart and St. Joseph. In all cases, alfalfa was attacked. However, no reports have been received since the end of July."

BLISTER BEETLES (Meloidae)

Kansas — Geo.A.Dean (August 16). "During the last two weeks we have received a good many reports of blister beetles injuring alfalfa and some of the garden crops. The common ones in the western part of the State are species of Macrobasis, one of the most common being unicolor. The common one over the eastern half of the State is Epicauta lemniscata Fab.

SOY BEANS

SOY-BEAN ROOT CURCULIO (Sitona crinita Hbst.)

Illinois — W.P.Flint (August 17). "The Sitona that has been reported in the June and July Survey Bulletins on soy-beans was found in this State in 1920. Two reports of damage, both of which were investigated, were received that year and numbers of the adult beetles were taken from soy-beans in the injured fields. These were identified at that time as Sitones hispidulus Fab. Both of these fields were in clover sod broken in the spring and the injury was the same in all respects as that occurring in Illinois this year. There can be little doubt that the species was the same. If this proves to be crinita it seems probable that it has been established in Illinous for at least three years."

COWPEA

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

Mississippi — R.W.Harned (August 17). "Cowpea pod weevils were received in large numbers from Marshall County, where they were collected on cowpeas, and from Tunica County, where they were taken from cotton."

LESSER CORN STALK-BORER (Elasmopalpus lignosellus Zell.)

Florida — Harold Mowry (August 1). "This insect was observed for the first time attacking cowpeas at Jacksonville today."

VELVET-BEAN CATERPILLAR (Anticarsia gemmatilis Hubn.)

Florida — Jeff Chaffin (August 1). "This insect appeared at Gainesville today, this being 15 days earlier than it appeared last year. It should reach the Georgia State line by August 25."

TIMOTHY

WHEAT-HEAD ARMYWORM (Heliophila albilinea Hubn.)

Iowa — G.C.Edler (Bureau of Markets, August 14). "Our correspondent has just completed a survey of the timothy seed situation in south-central Iowa and finds that the head worm is quite abundant but not serious enough to occasion cutting of the timothy for hay."

SORGHUM WEBWORM (Celama sorghiella Riley)

Missouri — L.Haseman (June 30). "This insect is more abundant than usual in Cape Girardeau County, As soon as the volunteer rye heads have passed the milk stage it turns its attention to timothy seed heads."

GENERAL FEEDERS

GRASSHOPPERS (Acridiidae)

Missouri — L.Haseman (July 26). "The differential grasshopper has been much worse than usual in places in central and eastern Missouri this year. It is not, however, a general scourge as in some years."

Mississippi — R.W.Harned. "Grasshoppers, especially Melanoplus differentialis Thos. and Schistocerca americana Drury, are more abundant than usual in Mississippi this summer. These reports come especially from the northern half of the State."

Colorado — C.P.Gillette (July 15). "According to Mr.C.L.Corkins, the only outstanding species so far has been Melanoplus bivitattus Say with M. femur-rubrum DeG. M. atlanis Riley, and M. packardii Scud. present in moderate numbers. The differential grasshopper has not been abundant in any locality that has come under our observation this summer. We have been sending out large quantities of concentrated crude white arsenic, amyl acetate, and salt for use by the farmers and so far with very satisfactory results."

Idaho — Claude Wakeland (July 25). "Grasshoppers are doing about the average amount of damage to alfalfa and grain this year, damage most severe over the southern third of the State and in the two northern most counties. In the northern outbreak about 90 per cent of the hoppers were Camnula pellucida Scud, according to Mr.Whelan."

WHITE GRUBS (Phyllophaga spp)

Massachusetts — A.I.Bourne (August 21). "White grubs are reported to us from Bristol County as doing quite serious injury to the hay crop and corn, potatoes, and strawberries. In some cases they have practically ruined the crops."

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Rhode Island	A.E.Stene (August 3). "In my experience I have never seen white grubs in such large numbers. From one to two dozen larvae would be found in every hill of corn in places. A number of reports of a similar nature were reported from other parts of the State. The outbreak investigated was along the eastern border."
Indiana	J.J.Davis (August 17). "During the past month white grubs have been reported from central Indiana, the crops commonly injured being grass of golf courses, strawberries, vegetable crops, and in greenhouse bench soil."
Nebraska	M.H.Swenk (August 1). "White grubs have been reported repeatedly as destroying strawberry beds, especially those set out this spring in various parts of eastern Nebraska, and in Omaha there has been some injury to blue-grass lawns. This injury to lawns began to show up in the last week of July."
North Dakota	R.L.Webster (August 15). "White grubs are reported as seriously damaging potatoes in Barnes and Pembina Counties. In the Barnes County outbreak injury occurred in a field that was in wheat in 1921 and for several years previously. There are no trees near this field."

FRUIT INSECTS

APPLE

APPLE APHID (Aphis pomi DeG.)

New York — C. R. Crosby and assistants (August 5). "During the latter part of July the green apple aphid developed to a dangerous extent in some orchards in Orleans and Monroe Counties. They are still present in some orchards in Monroe County."

CODLING MOTH (Carpocapsa pomonella L.)

New York — L. F. Strickland. "Emergence of the codling moth was practically completed on the ridge and escarpment by June 25 throughout the rest of the county, to the north moths continued to emerge until July 7. On July 5, parasitism of the codling moth eggs by Trichogramma minutum Riley began with 9 per cent infestation, and by July 7 had reached 50 per cent infestation in one orchard."

C. R. Crosby and assistants (August 12). "The codling moth is developing very slowly because of cool weather. Late hatching of the first brood still continues along the Lake Shore."

Pennsylvania — S.W. Frost (August 15). "Examinations of the drop fruit show a large percentage of moth injury this summer. Most of the moths entered the calyx end of the apple. The amount of side worm injury thus far has been slight."

Illinois — S. C. Chandler (July 31). "Apples on unsprayed trees average 13.6 per cent infested with second-brood larvae. Worms hard to find in sprayed orchards."

Washington — Bureau of Entomology Monthly Letter No. 99. "E. J. Newcomer reports that the Bureau's efforts in importing codling moth parasites from the east for establishment in orchards around Yakima, under way for the past two or three years, have been successful, in the case of one species at least, Bassus carpocapsae Cushman which has been secured from band material collected last fall."

FRUIT-TREE LEAF-ROLLER (Cacoecia argyrospila Walk.)

New York — G. E. Smith. "Leaf-roller moths were found unusually abundant in a pear orchard during the early part of July. Their injury is apparent on many apple orchards throughout Orleans County."

RED-BANDED LEAF-ROLLER (Eulia velutinana Walk.)

Pennsylvania — S. W. Frost (August 18). "Abundant in the third generation, the larvæ producing fresh injury on the fruits of apple."

TENT CATERPILLAR (Malacosoma americana Fab.)

Massachusetts — A. I. Bourne (August 21). "As was to be expected from indications this spring, the egg masses of the apple tent caterpillar are showing up in much greater abundance than usual."

FALL WEBWORM (Hyphantria cunea Drury)

Maine — E. M. Patch (August 3). "The fall webworms are abundant in Penobscot County at present."

Massachusetts — A. I. Bourne (August 21). "In the vicinity of Amherst these insects appeared to be in much greater abundance than usual. Reports from the eastern part of the State, however, indicate that they are approximately in normal abundance."

Kansas — G. A. Dean (August 16). "The common fall webworm is appearing over the eastern part of the State. It is on apple, mulberry, elm, and plum."

Mississippi — R. W. Harned (August 17). "The second generation of the fall webworm is now beginning to appear. The first generation was so abundant that these insects will undoubtedly cause serious damage in this State if natural enemies do not hold them in check."

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

New York — C. R. Crosby (July 26). "Infested material was received from Croton Lake today."

New Jersey — R. B. Lott (August 3). "The yellow-necked caterpillar was reported as injurious from New Brunswick."

Iowa — F. A. Fenton (August 13). "The yellow-necked caterpillar has been the principal leaf-feeding species this season."

FALSE APPLE RED BUG (Lygidea mendax Reut.)

Pennsylvania — S. W. Frost (August 15). "The drop fruit showed considerable injury by this species."

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Pennsylvania — S. W. Frost (August 15). "This insect has been noticeably scarce this season, especially on the fruit."

Mississippi — R. W. Harned (August 17). "The San Jose scale is probably abundant in every county in Mississippi. During the present summer we have received the normal number of complaints in regard to this pest."

SCURFY SCALE (Chionaspis furfura Fitch)

Pennsylvania — S. W. Frost (August 15). "This species is much more in evidence in orchards of Adams County than the other apple scales."

Rhabdopterax picipes Oliv.

New York — P. D. Rupert (July 15). "This beetle has caused considerable injury on Ben Davis in some orchards in Wayne County. This year the lime did not do so much good as it did last year owing to the heavy rain which fell at the time the beetles were working."

APPLE FLEA-WEEVILS (Orchestes pallicornis Say and O. canus Horn)

Illinois — S. C. Chandler (July 31). "Practically all weevils are now in hibernation. One weevil was observed on a tree at Olney today."

Michigan — R. H. Pettit (July 18). "This insect was very plentiful on the foliage of a single variety of apple at Augusta. The beetles had eaten pits in the under surface of the leaves not quite coming through to the upper surface. It seems to confine its attack to Northern Spy, as other varieties were eaten very sparingly on adjoining trees."

RED SPIDER (Tetranychus telarius L.)

Massachusetts — A. I. Bourne (August 21). "Considerable bronzing of ornamental and fruit stock is noticed as a result of these pests. Damage reported from practically all parts of the State, not as serious as usual, probably owing to wet season."

California — E. O. Essig. "This insect has damaged from 10 to 20 per cent of the crop in the Sacramento Valley. It was effectively controlled by using liquid lime-sulphur, soluble sulphur, and wetable sulphur, sprays and by dusting with flowers of sulphur."

PEAR

PEAR THRIPS (Taeniothrips inconsequens Uzel)

New York — G. E. Smith. "Found rather abundant in many young apple orchards in Orleans County early in July."

PEAR PSYLLA (Psylla pyricola Foerst.)

New York — P. J. Parrott (July 15). "In one orchard the pear psylla is very abundant and has already caused very much discoloration of the foliage and fruit."

L. F. Strickland. "The second-brood nymphs had completed their appearance in Niagara County by July 8, and heavy lime nicotine sprays were applied."

PEAR-LEAF BLISTER MITE (Eriophyes pyri Pgst.)

New York — C. R. Crosby (July 20). "Infested material was sent in from Wellsville."

Iowa — F. A. Fenton (August 18). "The pear-leaf blister mite appeared in several nurseries and is reported to be quite serious."

QUINCE CURCULIO (Conotrachelus crataegi Walsh)

New York — E. O. Shear (July 2). "The quince curculio has been a serious pest in a few pear orchards."

PEAR AND CHERRY SAWFLY (Caliroa cerasi L.)

Idaho — Don B. Whelan (July 25). "This pest is much more abundant than it was during 1920 and 1921. Very few trees in southwestern Idaho are free from infestation, and some are nearly defoliated. The defoliation has seriously affected the vitality of the trees in certain districts and undoubtedly will reduce the crop next year."

PEACH

PEACH BORER (Aegeria exitiosa Say)

Mississippi — R. W. Harned (August 17). "The peach borer is causing about the usual amount of damage in this State."

California — (California Weekly News Letter, Volume 4, No. 32 & 33). "County Horticultural Commissioner for Kings County reports intercepting 10,000 prune trees from Oregon badly infested with the peach-tree borer, a pest not known to exist in this county. One of the infested counties of the State had placed a pooled order for more than 3 tons of para-dichlorobenzine to be used to control this pest."

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Indiana — J. J. Davis (August 17). "Shot-hole borers have frequently been reported from all parts of the State during the past month. We are receiving no reports of injury from well kept commercial orchards."

Kansas — G. A. Dean (August 16). "Over the entire State the fruit-tree bark-beetle is seriously injuring cherry and plum."

Mississippi — R. W. Harned. "Barkbeetles, probably this species, have been reported as seriously injuring peach trees, at numerous places in this State."

ORIENTAL PEACH MOTH (Laspeyresia molesta Busck)

California — (California Weekly News Letter, Volume 4, No. 32). "Port inspectors of San Francisco intercepted a lot of Japanese pears infested with lepidopterous larvae. Specimens sent to Washington were determined as the Oriental peach moth."

A SAWFLY (Tenthredinidae)

Mississippi — R. W. Harned (August 17). "Sawfly larvae have been received from Wilkinson County where they were reported as defoliating peach trees."

CHERRY

CHERRY FRUIT FLY (Rhagoletis cingulata Loew)

California — (California Weekly News Letter, Volume 4, No. 32). "This insect has been intercepted on shipment of Oregon cherries. While this pest is common in Oregon, this is the first time it has been brought into California from that State."

CHERRY FRUIT SAWFLY (Hoplocampa cookei Clarke)

Washington A. L. Melander (August 26). "This insect has been reported this summer for the first time in Washington, from Everett."

PLUM

PLUM CURCULIO (Cõnotrachelus nenuphar Hbst.)

Maine E. M. Patch (July 17). "The plum curculio is reported as abundant in the vicinity of Portland in both plums and apples. It is abundant all the way to Bangor."

New York C. R. Crosby and assistants. "This insect has been reported as doing more or less serious damage from Genesee, Westchester, and Orleans Counties. Practically the entire crop in neglected orchards was ruined by this pest in the latter county."

Pennsylvania S. W. Frost (August 15). "Has not been as numerous on apple this season as during the past two seasons."

Mississippi R. W. Harned (August 17). "The plum curculio has caused some loss to peaches throughout Mississippi this summer."

CURRANT

IMPORTED CURRANT WORM (Pteronidea ribesi Scop.)

Idaho Claude Wakeland (August 1). "This insect was so abundant in the Rexburg district that bushes were generally defoliated and a few people resorted to sprays in a community where they have heretofore been remarkably free from insect pests."

PECAN

PECAN SHUCKWORM (Laspeyresia caryana Fitch)

Mississippi R. W. Harned (August 17). "The pecan shuckworm has been received from numerous places in the State. Many reports have been received in regard to the shedding of pecans. Some reports indicate 90 per cent of the pecans fallen. This seems to be due to a combination of several causes including especially the shuckworm, pecan scab, and black pit. In one instance the pecans received were infested with weevil larvae."

SPITTLE INSECTS (Cercopidae)

Mississippi R. W. Harned (August 17). "Several complaints have been received in regard to the injury of pecans by spittle insects."

ENGLISH WALNUT

CODLING MOTH (*Carpocapsa pomonella* L.)

California — (California Weekly News Letter, Volume 4, No. 33). "The first discovery of the codling moth on English walnuts in San Diego County has just been made. The infested nuts come from a small grove near Vista. We do not as yet know how general the infestation is in that neighborhood."

CRANBERRY

BLACK VINE WEEVIL (*Brachyrhinus sulcatus* Fab.)

Washington — A. L. Melander (August 26). "This species was found abundantly in cranberry bogs in southwestern Washington, having completely killed out acreages of cranberry plants. Because of the unusually dry season cranberry growers have been inclined to attribute the weakness of the plants to drought but the prevalence of larvae in the soil would account for the weakening and death of the plants. The roots have had the bark stripped from them. It is interesting to note that we have found larvae of *B. sulcatus* as deep as 22 inches below the surface in an apple orchard at Walla Walla last month."

GRAPE

GRAPE PHYLLOXERA (*Phylloxera vitifoliae* Fitch)

New York — C. R. Crosby (July 24). "Infested leaves were sent in from Schuyler County on this date."

Illinois — W. P. Flint (August 17). "This insect has been reported from all sections of the State and is very much more numerous than usual."

Iowa — F. A. Fenton (August 18). "The grape phylloxera is the most destructive insect to grape in Iowa this year."

Missouri — A. C. Burrill (July 26). "One of the worst centers of the grape phylloxera yet located in this State has been discovered in Saline County. This insect in conjunction with the leafhopper injured 80 per cent of the leaves. The crop does not seem to be damaged, however."

GRAPE-BERRY MOTH (*Polychrosis viteana* Clem.)

Ohio — (Bureau of Entomology Monthly Letter No. 99). "In Ohio and Michigan the grape-berry moth has caused more than the usual amount of damage to the grape clusters by feeding on the stems and buds during the blossoming period."

Michigan — R. H. Pettit (August 21). "The growers are gaining control of the grape-berry moth which is in comparatively small numbers since our campaign of the past two seasons."

GRAPE LEAF-FOLDER (Desmia funeralis Huebn.)

Kansas G. A. Dean (August 16). "In many parts of the State the grape leaf-folder is more common on the grape than I have ever known it to be before. Some growers report nearly all the leaves infested."

Mississippi R. W. Harned (August 17). "The grape leaf-folder has been received from several points in this State."

GRAPE-BLOSSOM MIDGE (Contarinia johnsoni Sling.)

Michigan (Bureau of Entomology Monthly Letter No. 99). "At Paw Paw bud clusters infested with the midge were observed on June 8. This insect had not been reported previously from that section."

GRAPE ROOTWORM (Fidia viticida Walsh)

Missouri A.C. Burrill (July 26). "Never have observed so much riddling of the leaves as was noticed in Saline County this month."

GRASSHOPPERS (Acridiidae)

California (California Weekly News Letter, Volume 4, No. 29). "County Horticultural Agent of Yuba County reports that grasshoppers were attacking 175 acres of newly planted raisin vineyard. Bran mash was applied immediately and some adjoining land was burned over. Splendid control resulted and very little damage was done."

GRAPE LEAFHOPPER (Erythroneura comes Say)

Massachusetts E. R. Farrar (August 15). "This insect is very much less abundant than normally in Lincoln County."

New York L. F. Strickland (July 22). "Hoppers are especially severe in many vineyards, some being gray in color. On July 21 adults were beginning to appear. The infestation ranges between 70 and 125 nymphs per leaf. Relatively few growers made the Bordeaux nicotine application recommended for the infestation on June 29."

A. L. Pierstorff (July 8). "Leafhopper nymphs have been found in large numbers in Monroe County."

Ohio (Bureau of Entomology Monthly Letter No. 99). "Mr. G. A. Runner reports severe injury from grape leafhoppers in vineyard sections of New York, Ohio, and Michigan, and large numbers of grape growers have commenced spraying operations for the control of this pest."

Michigan R. H. Pettit (August 21). "Mr. Harman who has just returned from an examination of the vineyards in the grape belt reports that around Lawton and Paw Paw leafhoppers are in smaller numbers than in the past. The later foliage looks healthy and green while the earlier foliage shows the effects of these insects. This seems to indicate very effective control by spraying."

Missouri — A. C. Burrill (July 26). "This insect is of but minor importance in this State. I have not yet seen what might be called a heavy epidemic."

CITRUS AND SUBTROPICAL FRUITS

MEXICAN FRUIT FLY (*Anastrepha ludens* Loew)

California — (California Weekly News Letter, Volume 4, No. 33). "Quarantine Officers at San Pedro and San Francisco report numerous seizures of mangoes, oranges, grapes, avacodos, and sapotes from Central American ports containing living larvae of the Mexican fruit fly. Some sapotes taken at San Pedro were shipped from Corinto, Nicaragua. Upon examination 7 larvae of this insect were found in one of the fruits. If these fruits were actually grown in Nicaragua this is a most interesting finding since the fruit fly has not previously been reported from that country."

MEDITERRANEAN FRUIT FLY (*Ceratitis capitata* Wied.)

California — (California Weekly News Letter, Volume 4, No. 33). "Quarantine officer at Los Angeles has taken many larvae and pupae of the Mediterranean fruit fly in an express package from Honolulu."

PAPAYA FRUIT FLY (*Toxotrypana curvicauda* Gerst.)

Canal Zone — (Bureau of Entomology Monthly News Letter No. 99). "The papaya fruit fly is very well distributed wherever papayas are grown. In some of the papaya groves the damage due to this species amounts to 90 per cent of the crop. In some parts of the interior of Panama it is impossible to grow papayas without having them infested, unless the very thick-fleshed varieties are grown. The picking and destroying of infested papayas and allowing chickens to live in the groves are the two most efficient control measures."

CITRUS BLACK-FLY (*Aleurocanthus woglumi* Ashby)

Canal Zone — (Bureau of Entomology Monthly News Letter No. 99). "The citrus black-fly, introduced into the Canal Zone from the West Indies, is rapidly spreading, according to Mr. James Zetek. The pest is now well distributed for about 12 miles out from Panama City along the Canal Zone, and has been introduced into the interior at Aguadulce. Two entomogenous fungi are following the black fly, but are not sufficient to check it."

MEALYBUG (*Pseudococcus* sp.)

California — (California Weekly News Letter, Volume 4, No. 33). "The first infestation of mealybug ever found in San Benito has been discovered on some ornamental shrubs."

TRUCK-CROP INSECTS

MISCELLANEOUS FEEDERS

BLISTER BEETLES

Rhode Island — A. E. Stene (August 3). "The margined blister beetle is reported as attacking potatoes and a number of other crops so seriously that growers are alarmed. This is the first time that serious damage has been reported to this station."

Iowa — F. A. Fenton (August 18). "Two species of blister beetles, Epicauta cinerea Foerst. and E. vittata Fab., are unusually abundant, the latter being reported from radish, lettuce, beans, turnips, tomatoes, and melons."

Nebraska — M. H. Swenk (August 1). "The gray blister beetle is reported from eastern Nebraska as injuring potatoes, tomatoes, beans, turnips, melons, etc."

Missouri — A. C. Burrill (August 1). "Reports of injury are starting to come in from these insects though they do not seem as bad as last year."

Mississippi — R. W. Harned (August 17). "Blister beetles have been reported from several different places in the State as seriously injuring gardens."

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

New York — C. R. Crosby and assistants. "By the end of July, potato beetles were reported as being numerous in many fields in Monroe and Genesee Counties."

Idaho — Don B. Wheland(July 31). "This insect was injuriously abundant last year, but very few have been observed this year and they have done no injury."

POTATO LEAFHOPPER (Empoasca mali LeB.)

New York — C. R. Crosby and assistants (August 12). "During the last few days in July and the first half of August the potato leafhopper and hopperburn were reported from many places in Onondaga, Monroe, and Nassau Counties. In Nassau County hopperburn is showing up in severe proportions."

Indiana — J. J. Davis (August 17). "The potato leafhopper is quite abundant, especially in the northern half of the State."

Ohio — T. H. Parks. "These insects are very abundant on potatoes in all parts of the State. Early varieties were killed by hopperburn before maturity, late varieties now becoming affected even where mulched with straw and thus rendered immune to drought. Spraying demonstrations with Bordeaux 5-7-50 showing up well."

Michigan — R. H. Pettit (August 15). "The potato leafhopper is rather troublesome this year on potatoes and appearing in large numbers on alfalfa. It seems that alfalfa, which for some reason or another lacks vigor, is immediately attacked by the leafhoppers. In many cases associated with the leafhopper injury is the leaf spot Pseudopeziza medicaginis."

POTATO TUBER MOTH (Phthorimaea operculella Zell.)

Mississippi — R. W. Harned (August 17). "The insect reported under this name in the July number of the Survey Bulletin, page 131, has been determined as an obscure Gnorimoschema by Mr. August Busck."

FALSE CHINCH BUG (Nysius ericae Schill.)

Idaho — Claude Wakeland (July 25). "The worst outbreak in the history of the State is under way in Jerome, Bingham, and Rexburg Counties. The insect produces severe curling and browning of the leaves, and portions of some fields are completely destroyed, especially around the edges. It has also caused total loss to a few patches of strawberries and raspberries."

TARNISHED PLANT-BUG (Lygus pratensis L.)

Indiana — J. J. Davis (August 17). "The tarnished plant-bug has been reported injuring buds of various plants, especially potatoes."

Ohio — Herbert Osborn (August 1). "The tarnished plant-bug has been injurious to potato tips in two counties."

Idaho — Claude Wakeland (August 1). "About the middle of July these insects were noticed to be very abundant in one potato field in Rexburg County. Infested plants wilted and those that had been injured for some time were noticeable by the leaves turning brown, especially around the edges. Injury usually worse on the edge of the fields near alfalfa."

CABBAGE

IMPORTED CABBAGE WORM (Pontia rapae L.)

Massachusetts — A. I. Bourne (August 21). "The imported cabbage worm is generally about normally abundant; in some fields, however, they are found to be doing considerable damage."

New York — C. R. Crosby and assistants. "These insects are moderately abundant but causing no unusual damage this year."

Missouri — A.C. Burrill (July 26). "In Saline, Boone, and Jackson Counties this insect is proving very troublesome and spraying undoubtedly will be practiced in these counties in the near future. In Pemiscot County 45 per cent of the leaves were damaged by these

Mississippi R. W. Harned (August 17). "The imported cabbage worm is not as abundant as during normal years."

HARLEQUIN BUG (Murgantia histrionica Hahn)

Mississippi R. W. Harned (August 17). "The harlequin cabbage bug has been reported as appearing in injurious numbers in Lee and Panola Counties."

STRAWBERRY

STRAWBERRY LEAF-ROLLER (Ancylis comptana Froehl.)

Iowa F. A. Fenton (August 18). "The strawberry leaf-roller has been especially injurious in several localities."

Idaho D. B. Whelan (July 25). "Damage in a few restricted fields at Blackfoot amounted to 25 per cent of the crop. This insect is also attacking strawberries in Bingham, Minidoka, Bonneville, Cassia, Jerome, Washington, Ada, and Canyon Counties."

APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)

New York C. R. Crosby (July 25). "This insect is found all over Hudson County attacking strawberries."

STRAWBERRY ROOT-WEEVIL (Brachyrhinus ovatus L.)

Washington A. L. Melander (August 26). "This insect has been very destructive, especially in western Washington this year. It is now becoming a nuisance by congregating in houses adjacent to strawberry fields for hibernation."

STRAWBERRY CROWN-BORER (Tyloderma fragariae Riley)

Iowa F. A. Fenton (August 18). "The strawberry crown-borer has been especially injurious in several localities during the latter half of July and the first half of August."

WHEAT WIREWORM (Agriotes mancus Say)

Pennsylvania F. H. Chittenden (August 14). "Have received information to the effect that growers at Luthersberg are unable to cope successfully with this insect in strawberry patches."

SPITTLE INSECTS (Aphrophora spp.)

Washington A. L. Melander (August 26). "These insects have been reported as particularly abundant, especially in western Washington this summer, in some cases in strawberry fields reducing the yield to 50 per cent. When we have several insects on every plant the stems are shortened and the leaves crinkled."

BEAN

MEXICAN BEAN BEETLE (*Epilachna corrupta* Muls.)

North Carolina — Franklin Sherman (July 18). "The two localities mentioned in the last number of the Survey Bulletin are Patrick in Cherokee County and Bresstown on the edge of Clay County."

Neal F. Howard (August 28). "A report has been received that the Mexican bean beetle has been found in Swain County. Three counties are now found to be infested in the west most part of the State."

South Carolina — Neal F. Howard (August 28). "The Mexican bean beetle has been reported as occurring in Anderson County during the past month."

Georgia — Neal F. Howard (August 28). "The Mexican bean beetle is causing heavy damage in Georgia. Total destruction of garden beans occurring in some places. In addition to the counties infested in 1921 this beetle has been found in the following counties: Campbell, Clayton, Coweta, Fayette, Henry, Morgan, Newton, Oconee, Rockdale and Walton."

Kentucky — Neal F. Howard (August 28). "Heavy infestation is reported in Kentucky. This insect was not numerous enough in the fall of 1921 to cause any reduction in the crop. In addition to the counties reported last year it has been found in Knox, Madison and Wayne Counties."

Tennessee — Neal F. Howard (August 28). "Total destruction of beans took place in ~~Tennessee~~ about Chattanooga this year. The price of beans on the Chattanooga market is $3.75 per bushel. In addition to the counties reported last year, this insect has been found in Bedford, Knox, Lawrence, Lewis, Maury, Marshall, Rutherford, Sevier and Wayne Counties.

Alabama — Neal F. Howard (August 28). "On account of the late emergence of the beetles from hibernation this year many early bean plantings in Alabama yielded at least one good picking. This situation together with the large shipments of beans from other points not heavily infested brought down the price of beans on the Birmingham market to a low figure. For the past month, however, the price has risen steadily and is now $3.75 per bushel wholesale."

Mississippi — R. W. Harned (August 17). "So far the Mexican bean beetle has not been reported from this State."

CUCUMBER

BANDED CUCUMBER BEETLE (*Diabrotica balteata* Lec.)

Mississippi — R. W. Harned (August 17). "This insect is quite abundant this year, and has been especially injurious in the southwestern part of the State on beans, peas, potato, and cucumbers. Ten years ago this insect was not known in Mississippi; 5 years ago it was rather rare and only a few complaints were received in regard to it. At the present time, however, it is quite abundant in all parts of the State and apparently is as serious, or nearly as serious, as the other two common Diabroticas."

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

assachusetts A. I. Bourne (August 21). "This insect is reported as being decidedly more abundant than usual in Lincoln County. About the 10th of August the new brood of adults were beginning to appear in Amherst."

ew York M. O. Hammond (July 29). "Larvae in the roots are doing considerable damage in one planting of cucumbers in Orange County."

ndiana J. J. Davis (August 17). "The striped cucumber beetle continues to occur in destructive numbers throughout the State, and we received many reports of injury to cucumber and melons by the larvae."

ississippi R. W. Harned (August 17). "The striped cucumber beetle has apparently caused more damage in Mississippi this year than during any previous year of which we have record. Complaints have been received especially in regard to injury to watermelons. Many growers had to replant several times before getting a stand. Others failed entirely to raise any watermelons on account of the abundance of these beetles."

MELON

MELON APHID (Aphis gossypii Glov.)

assachusetts A. I. Bourne (August 21). "A few instances of this pest in unusual numbers are being brought to our attention."

ndiana J. J. Davis (August 17). "The melon aphid is showing up in very destructive numbers in a few localities."

owa F. A. Fenton (August 18). "The usual number of inquiries are received concerning the melon aphid from the Mississippi River Trucking districts."

ebraska M. H. Swenk (August 1). "The melon aphid has been normally destructive during the entire month of July."

alifornia R. E. Campbell (August 15). "Infestation appeared in a number of fields in Los Angeles County during the latter part of July continuing into August, but most of the growers immediately used nicotine dust and prevented serious damage."

SQUASH

SQUASH BORER (Melittia satyriniformis Huebn.)

assachusetts H. T. Fernald (August 21). "Mr. Worthley reports that the squash-vine borers are maturing. The larvae are beginning to leave the plants. Fifty per cent or more of the plants in some fields are infested but the abnormally wet season promoted the growth of the secondary roots so that the injury to the crop will probably be much less than is ordinarily the case."

New York — C. R. Crosby (July 26). "This insect was sent in as doing rather serious damage to squash at Schenectady."

Illinois — W. P. Flint (August 17). "This insect is very abundant in northern Illinois this year."

Indiana — J. J. Davis (August 17). "The squash-vine borer has been reported in abundance this season, particularly in the southern half of the State."

Missouri — A. C. Burrill. "This insect has been reported from several parts of the State this year."

SQUASH BUG (Anasa tristis DeG.)

Massachusetts — H. T. Fernald (August 21). "The squash bug appears to be generally less abundant than for several seasons past."

New York — A. L. Pierstorff (July 15). "Squash bugs are numerous on plantings in Monroe County this year."

Indiana — J. J. Davis (August 17). "Squash bugs have been hatching during the last week or two in central Indiana. From all indications there will be the usual large infestation this year."

Nebraska — M. H. Swenk (August 21). "The squash bug has been normally destructive during the entire month of July."

Missouri — L. Haseman (July 26). "This insect has been about normal. It is increasing rapidly, and where no treatment had been applied entire plantings have been destroyed."

ONION

ONION THRIPS (Thrips tabaci Lind.)

Massachusetts — A. I. Bourne (August 21). "The onion thrips has appeared much later this season than is usually the case. Have not been as abundant as we usually find them, although here and there they are doing considerable injury. They were late in appearing owing doubtless to the unusual rainfall during June which held them in check. However, the same weather conditions interfered with cultivation so the plants were held up in their development to a considerable extent."

SWEET POTATO

SWEET-POTATO WHITE FLY (Bemisia inconspicua Quaint.)

Florida — Jeff Chaffin (August 10). "This time last year the white fly was causing serious damage to sweet potatoes all over the State. There are very few this year; in fact, you have to search to find any."

SOUTHERN FIELD-CROP INSECTS

COTTON

BOLL WEEVIL (*Anthonomus grandis* Boh.)

North Carolina — B.R.Coad (August 15). "The boll weevil was reported from 6 counties. The infestation seems to be rising and the injury increasing rapidly in Anson and Scotland Counties. Heavy infestations are also reported from sections of Union County."

South Carolina — B.R.Coad (August 15). "Boll weevil reports have been received from 9 counties. Heavy infestations in all of these counties but one."

Georgia — B.R.Coad (August 15). "Boll weevil reports have been received from 24 counties, covering practically the entire State. Of these, 17 counties report heavy infestations, one county an increasing infestation, and the remaining counties slight to moderate."

Florida — B.R.Coad (August 15). "A single report has been received from this State where indicated migration is reported from Madison County."

Tennessee — B.R.Coad (August 15). "Boll weevil reports were received from 13 counties in this State. Of these, 6 report heavy infestations, all in the southern half of the State extending from Fayette County near the western border to McMinn near the eastern border. The remaining counties report slight infestations."

Arkansas — B.R.Coad (August 15). "From this State we have received reports from 33 counties covering practically the entire cotton-growing region. Twelve counties report heavy infestation, these counties covering the southern and central parts of the State."

Oklahoma — B.R.Coad (August 15). "Reports have been received from 7 counties in this State, 2 of which in the east-central part report heavy infestation."

Alabama — B.R.Coad (August 15). "We have received boll weevil reports from 30 counties covering practically the entire State. Of these, 15 report heavy infestations. The heavily infested counties are in the northern and eastern half of the State."

Louisiana — B.R.Coad (August 15). "Reports on the boll weevil situation have been received from 14 counties. Of these, 5 report heavy infestations, all being in the northern third of the State, with the exception of Saint Landry Parish."

Mississippi

B.R.Coad (August 15). "Boll weevil reports have been received from 57 counties in this State, 36 of which, covering practically the entire cotton-growing area, report heavy infestations."

R.W.Harned (August 17). "The boll weevil is now abundant in all parts of the State. In most places where calcium arsenate had not been used probably 90 per cent of the squares were punctured. A few reports were received where for one reason or another boll weevils have not become abundant; in most cases these were probably isolated fields. A fairly good crop of cotton is already promised from the number of maturing bolls."

Texas

M.C.Tanquary (August 14). "The boll weevil infestation had been much lighter over a greater portion of Texas than was anticipated from the unusually large percentage of weevils which successfully emerged from hibernation. This is due in part to the continued hot dry weather throughout the summer and perhaps in part to the very general light planting of cotton this past spring."

B.R.Coad (August 15). "Boll weevil reports have been received from 12 counties in this State, all in the eastern third of the State. Six counties report heavy infestations extending from Fannin County on the northern border to Karnes County near the southern border."

COTTON WORM (Alabama argillacea Hubb.)

Alabama

W.E.Hinds (August 14). "The cotton leafworm was reported from the following counties: Alabama, Lowndes, Autauga, Lawrence, Talladega, Marshall, Etowah, Cullman, Franklin, Madison, Lauderdale, Walker, Morgan, and Cherokee. The infestation is light, but widespread. Pupation is now beginning and we anticipate widespread stripping by the end of the month or the first week in September."

Arkansas

G.G.Becker (August 15). "We received matured worms and even pupae from Desha County as early as July 26, and only 10 days later received word from Faulkner County that an outbreak was occurring there. I have just returned from Texas and found the worms serious in many parts of the State."

B.R.Coad (August 15). "The cotton leafworm has been reported from 17 counties. First-generation larvae were first reported from Desha County July 31; by August 12, reports of adults were received from Washington County; and by August 15, from Mississippi County."

Mississippi

R.W.Harned (August 8). "We have received cotton worms from Adams, Jefferson, Claiborne, Warren, Marshall, Benton, Hines, Yazoo, Sharkey, Issaquena, Madison, Holmes, Montgomery, and Chickasaw Counties. They have appeared in large enough numbers to completely defoliate cotton fields in Madison, Hines, Claiborne, Adams, Leflore, and other counties. (August 17) The cotton worm has probably now reached every part of Mississippi during the first ten days of August. Specimens were received from about 25 counties. These insects were first reported during the last week of July. No complaints have reached this office from these counties that compose approximately the southeastern quarter of Mississippi. No defoliation has been reported from the northern counties, whereas from the western half of the State certain fields have been almost completely defoliated."

B.R.Coad (August 15). "Reports of the cotton leafworm were received from 11 counties. First-generation larvae were reported from Hines and Wilkinson Counties on July 21; by August 5, reports were received from as far north as Leflore, Bolivar, and Chickasaw Counties."

Texas

M.C.Tanquary (August 14). "Cotton leafworm infestation very heavy and unusually early, doing very serious injury in many places, especially throughout the Brazos Valley. Many farmers are dusting their cotton, using calcium arsenate, lead arsenate, or Paris Green. The available supply of arsenicals for dusting purposes seems to be practically exhausted."

B.R.Coad (August 15). "The cotton leafworm was reported from 9 counties. First-generation larvae were observed as far north as Smith and Natchitoches Counties by July 27, and as far north as Dallas County by July 31."

Oklahoma

B.R.Coad (August 15). "Reports of the cotton leafworm were received from Garvin and Carter Counties on August 15."

Louisiana

T.H.Jones (July 31). "Information received during the last day or two indicated that the cotton caterpillar is showing up in injurious numbers in parts of northern Louisiana. (August 15) Since my last report, the outbreak of the cotton caterpillar has easily been the outstanding entomological feature of the month. Reports of damage in the northern part of the State began to reach us during the last few days in July and since then have been received from practically every section where cotton is grown. Few pupae were found in Franklin Parish on August 1. Dusting of cotton for the control of the pest has been general, Paris Green being the arsenical most commonly used, but the work has been delayed and interfered with by not having a stock of arsenical poisons readily available and by rain in many sections. Prices charged for Paris green have varied greatly; the lowest price was 29 cents per pound in casks F.O.B. Atlanta or Dallas, and I am informed that as high as 75 cents per pound has been paid."

B.R.Coad (August 15). "The cotton leafworm has been reported from 15 counties, First-generation larvae were observed in the northernmost part of the State from Claiborne County on July 26; by August 14, moths of the second generation were collected at Tallulah; and by August 13, second-generation larvae were found at this place."

COTTON APHID (Aphis gossypii Glov.)

South Carolina — B.R.Coad (July 15). "The cotton aphid is reported as abundant on this date in the vicinity of Hartsville and Charleston."

Georgia — B.R.Coad (July 15). "The cotton aphid is reported as abundant on this date in the vicinity of Cordele and Forsyth."

Florida — Jeff Chaffin (July 20). "This insect is reported as being quite numerous at the present time in Madison County."

Arkansas — B.R.Coad (July 15). "A light infestation of the cotton aphid is reported at Cummins."

Mississippi — B.R.Coad (July 15). "A light infestation is reported at Magnolia and Itta Bena. (August 17) The cotton aphid has been received from several points and is apparently causing a small amount of damage to cotton."

Louisiana — B.R.Coad (July 15). "The cotton aphid is reported as abundant in the vicinity of Elm Grove."

COTTON RED SPIDER (Tetranychus telarius L.)

Florida — Jeff Chaffin (July 20). "This pest is reported at the present time as numerous in Madison County."

Missouri — A.C.Burrill (July 11). "This pest is now present in large numbers on elm, maple, sycamore, etc. The progress of mites on trees is used as an index by the county agent of Pemiscot County as to the possible infestation of cotton later in the season."

COTTON SQUARE-BORER (Uranotes melinus Huebn.)

Mississippi — R.W.Harned (August 17). "The cotton square-borer has been received from several correspondents. In every case it has been causing damage to cotton."

BOLLWORM (Heliothis obsoleta Fab.)

Florida — G.D.Smith (July 20). "This insect is unusually active this year in Madison County."

Mississippi R.W.Harned (August 17). "The bollworm has been reported from Holly Springs as damaging about 4 per cent of the cotton. This estimate was made by counting squares. No damage was noticed on the bolls; this was young cotton and but few bolls were present. Some complaints in regard to the bollworm have been received from every part of the State. Several of the larvae thought to be the bollworm have been reared and determined as Heliothis virescens Fab.

SOUTHERN GREEN PLANT-BUG (Nezara viridula L.)

Florida G.D.Smith (August 1). "This insect has done quite a bit of damage to cotton all over western Florida during the past month."

CONCHUELA (Pentatoma ligata Say)

Texas M.C.Tanquary (August 17). "This insect has been reported as doing serious damage to cotton and alfalfa in the irrigated regions of El Paso and Pecos Counties."

CORN-SILK BEETLE (Luperodes varicornis LeC.)

Texas M.C.Tanquary (August 14). "This insect has been reported as working on cotton in this State."

FOREST AND SHADE-TREE INSECTS

MISCELLANEOUS FEEDERS

SEVENTEEN-YEAR CICADA (*Tibicina septendecim* L.)

'lorida — Jeff Chaffin (July 29). "Reports from inspectors and county agents indicate that Brood XXI of the periodical cicada is present all over north and west Florida at the present time. I have received specimens from as far west as Bay County and Panama City, and collected a few specimens here at Gainesville yesterday. The brood seems less numerous than usual and just appeared within the last ten days or two weeks."

GIPSY MOTH (*Porthetria dispar* L.)

lassachusetts — A. I. Bourne (August 21). "I have a report from the northern part of Worcester County that the gipsy moths are at the present time beginning their egg laying; but, apparently, the eggs are in much smaller numbers than last year."

SATIN MOTH (*Stilpnotia salicis* L.)

'ashington — A. L. Melander (August 26). "The satin moth has attained apparently a permanent foothold in western Washington. It was reported by William E. Longley, a specialist on Lepidoptera, as so abundant in South Bellingham that the crushed caterpillars have made the sidewalks slippery. Poplar trees have been stripped of foliage, the larvae pupating on bare twigs among hedges and projections of near-by houses. Mr. Longley also reports the occurrence of tachinid parasites.

This insect, against which the Federal Horticultural Board established a quarantine in New England this year, is also reported by our State district horticultural inspector, Mr. C. O. Weiss, as occurring at Blaine on the international border. It also occurs at New Westminister, B. C., according to information from across the border."

FOREST TENT CATERPILLAR (*Malacosoma disstria* Hubn.)

daho — Claude Wakeland (July 31). "This insect is very much more abundant than usual in Boundary, Bonner, and parts of Kootenai and Bennewah Counties, the most serious infestation being on poplar, birch, willow, choke cherry, wild rose, hawthorn, and apple; also to some extent on boxelder. The moths had all emerged by the last of July and countless egg masses are on all the above mentioned trees. The most serious infestation seems to be along river banks and lowlands. Two undetermined hynemopterous and one dipterous parasite have been reared from pupa cases, indicating a parasitism of about 25 per cent."

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

New York — C. R. Crosby (August 4). "This insect was observed attacking horse chestnut, birch, evergreen, and sassafras on Staten Island, and specimens were sent in to the office on July 29 from Nassau County on Long Island."

New Jersey — R. B. Locke (August 11). "This insect has been reported as damaging apples at Dayton, and cherries at Lakehurst."

Indiana — J. J. Davis (August 17). "We are continuing to receive numerous reports on the bagworm. These all come from southern Indiana and have been most numerous the last of July and the first of August. The host plants include spruce, arborvitae, shade trees, and shrubs."

Kansas — Geo. A. Dean (August 16). "In the southeastern part of the State the bagworm is rather common on red cedar, arborvitae, maple, boxelder, and elm. In several localities they are completely defoliating the cedar and arborvitae."

PSOCIDS

Louisiana — T. H. Jones (August 15). "During the past few days reports have been received from St. Tammany, East Baton Rouge, St. Landry, and Pointe Coupee Parishes as to the appearance of webbing on the trunks and branches of trees. One correspondent describes this condition as follows: 'The trunks and branches of these trees are entirely encased and appear as though varnished with a silvery polish.' The web resembles spider-web and is due to the presence of a psocid, which we have not yet determined."

CATALPA

CATALPA SPHINX (Ceratomia catalpae Boisd.)

Missouri — A. C. Burrill (July 11). "About 50 per cent of the foliage has been removed from catalpa trees in parts of Pemiscot County. This seems to be a bottom land epidemic spreading over several counties."

ELM

ELM BORER (Saperda tridentata Oliv.)

Nebraska — M. H. Swenk (August 1). "Normal injuries by the elm borer occurred during the period covered by this report (July 15 to August 1)."

Kansas — Geo. A. Dean (August 16). "Over the entire eastern half of the State the common elm borer is seriously injuring the elm shade trees. In a large number of towns hundreds of elms are dying."

LOCUST

LOCUST LEAF-MINER (Chalepus dorsalis Thunb.)

Mississippi — R. W. Harned (August 17). "The locust leaf-miner has done considerable damage in several counties in the southwestern section of the State."

OAK

OAK PRUNER (Elaphidion villosum Fab.)

aine

Edith M. Patch (August 3). "Work of the oak pruner and Obolca bimaculata Oliv. still continues to be sent in from Portland to Bangor."

TWO-LINED PROMINENT (Seriodonta bilineata Comst.)

North Carolina

Franklin Sherman (July 18). "This insect is now epidemic on oaks in Wilson, Wake, Durham, Davidson, Granville, Rowan, Stanly, Montgomery, and Moore Counties, apparently covering the whole central area of the State."

PINE

PINE BUTTERFLY (Neophasia menapia Feld.)

Idaho

D. E. Jones (July 31). "The worst outbreak ever known in Idaho is under way in the Payette Lakes region. The larvae have completely defoliated about 14,000 acres of yellow pine. Forest rangers estimate that the number of adults and pupae averages from 500 to 5,000 per tree, depending on the size of the trees. Pupal cases are so numerous that it is difficult to touch the tree trunks between them. Grass, weeds, fence posts, etc., are covered with the pupal cases from which the adults have not yet emerged."

GREENHOUSE AND ORNAMENTAL PLANT INSECTS

ASTERS

A CURCULIONID (Pictipes sp.)

Iowa — C. S. Weigel (July 30). "This insect has been reported from Iowa City as seriously damaging asters."

MARGUERITE FLY (Agromyza maculosa Mall.)

Mississippi — R. W. Harned (July 20). "For the first time we have received several complaints in regard to what we take to be marguerite fly injuring asters."

FERN

SOUTHERN FERN CUTWORM (Callopistria floridensis Guen.)

Mississippi — R. W. Harned (August 17). "The southern fern cutworm has been seriously damaging ferns at Lumberton."

CANNA

CANNA LEAF-ROLLER (Calpodes ethlius Cram.)

Mississippi — R. W. Harned (August 17). "Numerous reports have been received in regard to the injuries caused to cannas by leaf-rollers. Specimens have been received at this office from several points in the State of both this insect and the lesser canna leaf-roller (Nymphula cannalis Quaint.). In some cases both insects were present on the same plant."

CHRYSANTHEMUM

CHRYSANTHEMUM GALL FLY (Diarthronomyia hypogaea Loew)

Maryland — C. S. Weigel (July 30). "A report has been received that this insect is damaging chrysanthemums at Chevy Chase."

New Jersey — C. S. Weigel (July 30). "This insect has been reported as particularly injurious to chrysanthemums at Summit."

A LACE-BUG (Corythucha marmorata Uhl.)

Mississippi — R. W. Harned (August 17). "Lace-bugs, probably the above species, have been reported as seriously damaging chrysanthemums in Jefferson and Choctaw Counties."

[illegible]

PLANT INSECT

ASTER

A CURCULIONID ([illegible])

[illegible] (July 20). "[illegible] insect [illegible] a [illegible] injury [illegible] stem [illegible]."

PROBOSCIDIA FLY ([illegible] [illegible])

[illegible] R. W. Hanna ([illegible] 20). "[illegible] the [illegible] [illegible] injury [illegible] to wh[illegible] [illegible] take to [illegible] [illegible]."

BEET

SOUTHERN PEA CUTWORM ([illegible] [illegible])

[illegible] Hanna (August 17). "The southern pea cutworm [illegible] damaging [illegible] at Lubbock."

CORN

CORN BE[illegible] (C[illegible] [illegible])

[illegible] R. W. [illegible] (August 17). "[illegible] reports have been [illegible] [illegible] injury [illegible] [illegible] [illegible]

COLUMBINE

COLUMBINE LEAF-MINER (*Phytomyza aquilegiae* Hardy)

New Jersey — C. S. Weigel (July 30). "This insect was reported as particularly injurious to columbines during July at Summit."

COLUMBINE BORER (*Papaipema purpurifascia* G. & R.)

New York — C. S. Weigel (July 30). "This insect was reported from Cohoes as injuring columbines."

IRIS

IRIS BORER (*Macronoctua onusta* Grote)

Maine — E. M. Patch (August 5). "For the last three or four seasons we have had reports of the larvae of this insect destroying iris. Material was received today from Augusta, larvae nearly full grown."

Indiana — J. J. Davis (August 17). "Mr. E. B. Williamson, of Bluffton, who is a specialist in growing irises, has reported the iris borer as a very serious pest in his plantings."

ROSE

ROSE SCALE (*Aulacaspis rosae* Bouche)

New Jersey — Ralph B. Lett (July 25). "This insect was observed at New Brunswick as seriously infesting rose bushes."

UNICORN PROMINENT (*Schizura unicornis* S. & A.)

Mississippi — R. W. Harned (August 17). "This insect was received from Madison County, where it was reported as injuring roses."

RUSSIAN SUNFLOWER

SUNFLOWER WEEVIL (*Rhodobaenus 13-punctatus* Ill.)

Missouri — A. C. Burrill and A. F. Satterthwait (July 12). "Several hundred acres of a 3,000-acre sunflower plantation in the vicinity of Marston are infested for the first time, in the experience of the manager, with this beetle. In a rapid survey of a 30-acre patch 100 per cent of the stalks were found to be infested. Infestation sometimes results in the wilting of the heads and in other cases so weakens the plant that it is readily blown over. It is impossible as yet to ascertain to what extent the crop will be damaged."

GROUNDSEL TREE

A. LACE-BUG (Corythucha marmorata Uhler)

ew York E. P. Felt. "The tingis reported in the Survey Bulletin, Volume II, No. 5, page 189, has been identified by Mr. Drake as the above species."

MISCELLANEOUS FEEDERS

STALK-BORER (Papaipema nebris Guen., var. nitela Guen.)

C. S. Weigel (July 30). "This borer has been reported from Maryland, Ohio, and New Jersey as doing particularly serious injury to many flowering plants, among which are zinnia, delphinium, and dahlia."

INSECTS INFESTING HOUSE AND PREMISES

ARGENTINE ANT (Iridomyrmex humilis Mayr)

Mississippi R.W.Harned (August 17). "The Argentine ant is very abundant in 56 towns in the State. Surveys are being made in Aberdeen, Kosciusko, Durant, Terry, Crystal Springs, Hazlehurst, Summit, Woodville, Gulfport, Mississippi City, Biloxi, Bay St. Louis, Laurel, Hattiesburg, Greenwood, Greenville, and Clarksdale."

Pheidole flavens Roger subsp. floridana Emery.

Mississippi R.W.Harned (August 17). "This ant has been taken recently by one of the Plant Board Inspectors at Ocean Springs. This ant, which is common in Tropical America, is liable to become a household pest of importance."

Pheidole megacephala Fab.

Mississippi R.W.Harned (August 18). "During March one of the Plant Board inspectors sent to this office roots of the African daisy, Lonas indora, which were infested with this ant. These plants had been sent to a firm in Columbus, Miss., from Honolulu. Numerous soldiers, queens, workers, and immature stages were present about the roots of the plants. Specimens were determined by Dr. W.M.Wheeler. This Old World ant is now fairly well established in Tropical America and is a potential house pest."

TERMITES (Reticulitermes flavipes Kol.)

Mississippi R.W.Harned (August 17). "Termites, probably this species, have been reported as causing serious damage at several places. At Hazlehurst they were injuring chrysanthemums, apparently starting from pine stakes used as supports for these plants. At New Albany they had seriously weakened the framework of a building. At Starkville they had ruined a carpet."

PSEUDOSCORPIONS

Nebraska M.H.Swenk (August 1). "One Cumming County correspondent complaine of an abundance of false scorpions in his barn and haymow."

POWDER-POST BEETLE (Lyctus linearis Goeze)

Indiana J.J.Davis (August 17). "This powder-post beetle was reported on August 7 from North Manchester, where it was boring holes in the sleepers and oak floors of a dwelling house."

INSECTS ATTACKING MAN AND DOMESTIC ANIMALS

CATTLE

HORN FLY (Haematobia irritans L.)

Massachusetts — E.R. Farrar (August 15). "Horn flies are very much more troublesome than usual in Lincoln County this year."

STABLE FLY (Stomoxys calcitrans L.)

Texas — F.C. Bishopp (July 27). "Stable flies were quite annoying in the vicinity of Dallas up to about the latter part of June. During July these flies were of no material consequence as stock pests."

BLACK BLOWFLY (Phormia regina Meig.)

Texas — F.C. Bishopp (July 27). "This fly was practically disappeared in Texas. It was extremely numerous during the spring and caused heavy losses among sheep raisers in the western part of the State. Some stated that there were more wool maggots this spring than has been experienced for years."

BLOWFLY (Calliphora vomitoria L.)

Texas — F.C. Bishopp (July 27). "There was a marked decrease in the number of blowflies about July 1st. This insect, which has been causing unusual trouble around packing houses during the spring is now of little consequence and trapping operations have been curtailed."

SCREW-WORM (Chrysomya macellaria Fab.)

Texas — F.C. Bishopp (July 27). "After about July 10 screw-worm cases, which had been rather more numerous than normal in southwest Texas, began to subside materially. This is undoubtedly associated with the hot, dry weather which has set in over much of the range country."

POULTRY

FOWL TICK (Argas minatus Koch)

Mississippi — R.W. Harned (August 17). "The fowl tick was collected by Mr. E.K. Bynum at Biloxi on August 2. These ticks were very abundant in a poultry house. This is the first authentic record we have of the occurrence of this insect in Mississippi. They were determined by Mr. F.C. Bishopp, of the Bureau of Entomology. So far we have not been able to determine how these ticks reached Mississippi, or how long they have been present."

Telephorus sp.

Indiana J.J.Davis (July 1). "I am sending, under separate cover, specimens found in the crop and gizzards of 10 or 12 week old chicks at Hope, Ind. One of the most prominent poultry breeders in the Central West sent in these crops, advising that the contents caused a violent death among some of his chicks. While there are several insects present, the coleopterous larvae predominate." (This material was submitted to Dr. Adam Böving who determined the larvae as Telephorus sp.)

MAN

Atomus sp.

New York C.R Crosby (July 14). "Specimens of this mite were sent from Levanna with the following communication: 'I am sending you a sample of a mite that has suddenly been noticed in one of our camps on the Lake Shore. They bite campers unmercifully. We drenched the building with a saponified coal-tar creosote spray today but as the roof and the oak trees and the outside of the building seemed to be infested, we do not know what to do.'"